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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Paper No. 18

Application Number: 09/199,786
Filing Date: November 25, 1998
Appellant(s): GIROUX ET AL.

Jim Zegeer
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 31 October 2003.

(1) Real Party in Interest.

A statement identifying the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

(3) Status of Claims

The statement of the status of the claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement concerning the status of the amendments after final is correct.

(5) Summary of Invention

The summary of invention contained in the brief is correct.

(6) Issues

The appellant's statement of the issues in the brief is correct.

(7) Grouping of Claims

The appellant's statement in the brief that all the claims stand or fall together is agreed with.

(8) Claims Appealed

The copy of the appealed claims contained in the Appendix to the brief is correct.

(9) Prior Art of Record

The prior art, relied upon by the examiner in the rejection of the claims under appeal, is Meurisse et al. and Change et al.

(10) Grounds of Rejection

Claim Rejections—35 U.S.C.102(e):

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

Claims 1 and 7 are rejected under 35 U.S.C. 102(e) as being anticipated by Meurisse et al. Meurisse et al. discloses a method and apparatus for controlling the data flow rate of data transmitted over a connection between a source terminal and a destination terminal, wherein the method comprises the steps of monitoring an actual packet rate of data transmitted over the connection; calculating an upper packet rate value that is proportional to the actual packet rate (the explicit rate); embedding the upper packet rate value in a data flow control packet; sending the data flow control packets to the source terminal; and maintaining the data flow rate at the source terminal below the upper packet rate value (column 1, line 62 to column 2, line 14; column 3, lines 5-10)column 5, line 47 to column 6, line 15; column 6, lines 33-35; column 7, lines 1-6; column 7, lines 39-46; column 7, lines 56-63). An embodiment uses ATM, so the data flow control packet can properly be referred to as a "management cell" (column 4, line 63 to column 5, line 65; column 9, lines 38-41). Every transmission link inherently has a physical layer

transport rate that is subject to variations due to actual conditions of the transmission link itself, temperature variations, and/or electromagnetic interference.

Claim Rejections—35 U.S.C. 103(a):

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 2-5, 8, 9, 11, 13, and 22-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Meurisse et al.

With regard to claims 2-5, 8, and 9, the explicit rate is inherently a "threshold" because the source transmission rate is not allowed to exceed the explicit rate. Meurisse et al. fails to teach that the management cells are generated in response to changes in measured transport rate above or below a threshold. It would have been obvious to one of ordinary skill in the art to modify the teaching of Meurisse et al. so that the management cells are generated in response to

changes in measured transport rate above or below a threshold because such an arrangement helps to minimize unnecessary traffic.

With regard to claims 11 and 13, Meurisse et al. discloses a method and apparatus for controlling the data flow rate of data transmitted over a connection between a source terminal and a destination terminal, wherein the method comprises the steps of monitoring an actual packet rate of data transmitted over the connection; calculating an upper packet rate value that is proportional to the actual packet rate (the explicit rate); embedding the upper packet rate value in a data flow control packet; sending the data flow control packets to the source terminal; and maintaining the data flow rate at the source terminal below the upper packet rate value (column 1, line 62 to column 2, line 14; column 3, lines 5-10; column 5, line 47 to column 6, line 15; column 6, lines 33-35; column 7, lines 1-6; column 7, lines 39-46; column 7, lines 56-63). An embodiment uses ATM, so the data flow control packet can properly be referred to as a "management cell" (column 4, line 63 to column 5, line 65; column 9, lines 38-41). The explicit rate is inherently a "threshold" because the source transmission rate is not allowed to exceed the explicit rate. Meurisse et al. fails to teach that the management cells are generated in response to changes in measured transport rate above or below a threshold. It would have been obvious to one of ordinary skill in the art to modify the teaching of Meurisse et al. so that the management cells are generated in response to changes (either increases or decreases) in measured transport rate above or below a threshold because such an arrangement would help to minimize unnecessary traffic.

With regard to claims 22-24, Meurrise et al. fails to teach that the management message is contained in a management cell; the rate information is new rate information; and the rate

information is rate adjustment information. It would have been obvious to one of ordinary skill in the art to modify the invention of Meurisse et al. so that the management message is contained in a management cell; the rate information is new rate information; and the rate information is also rate adjustment information because such an arrangement would allow the rate calculations to be made at node Q, which has access to the rates from all the sources and can therefore effectively make the necessary calculations, and the results of the calculations to be sent by node Q back to the sources; the use of management cells has been well known in the art as an effective means for accomplishing this objective.

Claims 6, 10, 14, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Meurisse et al. in view of Chang et al.

With regard to claims 6 and 10, Meurisse et al. teaches that the system and method can be applied to ABR. Meurisse et al. fails to teach that the rate information can be inserted into RM cells. Chang et al. teaches a rate-based flow control mechanism in ATM networks that controls the transmission rate of ABR traffic sources based on feedback information contained in RM cells coming from the destination node (Abstract); use of RM cells offers the advantages that RM cells can return other useful information such as congestion status and expected cell rate, and RM cells allow the destination terminal to base its calculations on information contained in the RM cells that arrive at the destination terminal from the source terminal (Introduction). It would have been obvious to one of ordinary skill in the art to modify the invention of Meurisse et al. so that the feedback information, i.e., information concerning the measured flow rate, is contained in RM cells, as in Chang et al., because RM cells can return other useful information such as congestion status and expected cell rate, and such an arrangement allows the destination

terminal to base its calculations on information contained in the RM cells that arrive at the destination terminal from the source terminal.

With regard to claims 14 and 21, Meurisse et al. discloses a method and apparatus for controlling the data flow rate of data transmitted over a connection between a source terminal and a destination terminal, wherein the method comprises the steps of monitoring an actual packet rate of data transmitted over the connection; calculating an upper packet rate value that is proportional to the actual packet rate (the explicit rate); embedding the upper packet rate value in a data flow control packet; sending the data flow control packets to the source terminal; and maintaining the data flow rate at the source terminal below the upper packet rate value (column 1, line 62 to column 2, line 14; column 3, lines 5-10)column 5, line 47 to column 6, line 15; column 6, lines 33-35; column 7, lines 1-6; column 7, lines 39-46; column 7, lines 56-63). An embodiment uses ATM, so the data flow control packet can properly be referred to as a "management cell" (column 4, line 63 to column 5, line 65; column 9, lines 38-41). Meurisse et al. teaches that the system and method can be applied to ABR. Meurisse et al. fails to teach that the rate information can be inserted into RM cells. Chang et al. teaches a rate-based flow control mechanism in ATM networks that controls the transmission rate of ABR traffic sources based on feedback information contained in RM cells coming from the destination node (Abstract); use of RM cells offers the advantages that RM cells can return other useful information such as congestion status and expected cell rate, and RM cells allow the destination terminal to base its calculations on information contained in the RM cells that arrive at the destination terminal from the source terminal (Introduction). It would have been obvious to one of ordinary skill in the art to modify the invention of Meurisse et al. so that the feedback information, i.e., information

concerning the measured flow rate, is contained in RM cells, as in Chang et al., because RM cells can return other useful information such as congestion status and expected cell rate, and such an arrangement allows the destination terminal to base its calculations on information contained in the RM cells that arrive at the destination terminal from the source terminal.

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Meurisse et al., as applied to claim 11, above, and further in view of Chang et al. Meurisse et al. teaches that the system and method can be applied to ABR. Meurisse et al. fails to teach that the rate information can be inserted into RM cells. Chang et al. teaches a rate-based flow control mechanism in ATM networks that controls the transmission rate of ABR traffic sources based on feedback information contained in RM cells coming from the destination node (Abstract); use of RM cells offers the advantages that RM cells can return other useful information such as congestion status and expected cell rate, and RM cells allow the destination terminal to base its calculations on information contained in the RM cells that arrive at the destination terminal from the source terminal (Introduction). It would have been obvious to one of ordinary skill in the art to modify the invention of Meurisse et al. so that the feedback information, i.e., information concerning the measured flow rate, is contained in RM cells, as in Chang et al., because RM cells can return other useful information such as congestion status and expected cell rate, and such an arrangement allows the destination terminal to base its calculations on information contained in the RM cells that arrive at the destination terminal from the source terminal.

Claims 15-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Meurisse et al. and Chang et al., as applied to claim 14 above, and further in view of the Admitted Prior Art.

With regard to claims 15-17, neither Meurisse et al. nor Chang et al. teaches the use of bi-directional ADSL. The Admitted Prior Art teaches that xDSL modems and ADSL are well-known in the art (page 3, lines 12-25). It would have been obvious to one of ordinary skill in the art to modify the teaching of Meurisse et al. and Chang et al. to include xDSL modems and bi-directional ADSL because such an arrangement would allow adjustment of the transmission rate of the source and efficient use of channel capacity for applications that tend to involve asymmetric capacity demands such as conferencing and Internet access.

With regard to claim 18, neither Meurisse et al. nor Chang et al. teaches the use UBR. The Admitted Prior Art teaches that UBR is proposed for the ADSL service interface with ATM networks (page 3, line 22 to page 4, line 7). It would have been obvious to one of ordinary skill in the art to modify the teaching of Meurisse et al. and Chang et al. to include UBR because UBR is a useful service for non-real time applications.

With regard to claim 19, neither Meurisse et al. nor Chang et al. teaches the use of a wireless path. The Admitted Prior Art teaches that wireless paths are conventionally used (page 4, line 20 to page 5, line 1). It would have been obvious to one of ordinary skill in the art to modify the teaching of Meurisse et al. and Chang et al. to include a wireless path because a wireless path would allow the source and destination to be mobile.

With regard to claim 20, neither Meurisse et al. nor Chang et al. teaches the use of a IMA. The Admitted Prior Art teaches that IMA is conventionally used (page 5, lines 5-10). It would have been obvious to one of ordinary skill in the art to modify the teaching of Meurisse et al. and Chang et al. to include IMA because IMA is a well known means of communicating over multiple paths in a network.

11) Response to Argument

The inventive concept of the claimed invention involves measurement of a rate. This is exactly what Meurisse et al. measures. Appellant argues that the intended use is for measuring variations in rate due to actual conditions of the transmission link itself, temperature variations and/or electromagnetic interference. But this intended use is not the inventive concept itself, which is a measurement of a rate.

Issue #1:

With regard to claims 1 and 7, Appellant argues that whereas Meurisse et al. deals with queuing network mode and fraudulent increases in transmission rates, the claimed invention deals with changes in the rate caused by conditions of the links, temperatures variations, and/or electromagnetic interference. Appellant states, "The measurement at the queuing network node Q does not appear to be in any manner , fashion or form affected or influenced by actual conditions of the transmission link itself, temperature variations and/or electromagnetic interference." But Meurisse et al. measures the packet rate, and the packet rate inherently depends on conditions of the transmission link itself, temperature variations and/or electromagnetic interference. Meurisse et al. therefore measures a packet rate, which is in part influenced by conditions of the transmission link itself, temperature variations and/or electromagnetic interference.

Issue #2:

With regard to claims 2-5, 8, 9, 11, 13, and 22-24, Appellant argues that, whereas in the claimed invention RM cells are sent in response to a monitored change in the physical layer rate,

in Meurisse et al. this is done at fixed time intervals. But, as argued in the rejections, it would have been obvious to one of ordinary skill in the art to make this change to Meurisse et al.

Appellant argues that the "data flow control packet" of Meurisse et al. is not equivalent to the management cell of the claimed invention. As noted by Appellant, the data flow control packet of Meurisse et al. contains information regarding the actual packet rate, but the management cells of the claimed invention include information about the instantaneous transfer rate. But, because the data flow control packet contains information about the actual packet rate, it contains information due partly to the physical layer transport rate.

Issue #3:

With regard to claims 6, 10, and 14, Appellant argues that, "nothing is said in Meurisse et al. about monitoring the physical layer transport rate of the physical layer transmission link and recording the value derived therefrom in the RM cell and returning the RM cell including the monitored value to the upstream and adjusting the upstream source's transmission rate in response to the recorded value in the RM cell in advance of the onset of congestion and cell loss. But Meurisse et al. monitors the packet transport rate, which is inherently due partly to the physical layer transport rate. Meurisse et al., therefore, monitors in part the physical layer transport rate.

Issue #4:

With regard to claim 12, Appellant argues that Chang et al. does not disclose monitoring change in the physical layer. But both Meurisse et al. and Chang et al. inherently monitor in part changes in the physical layer because the packet rate depends in part on the physical layer.

Issue #5:

With regard to claims 15-20, Appellant again argues that Meurisse et al. fails to teach or suggest that the "transfer characteristics are controlled based on the dynamic adaptation to the physical layer rate variation. But, as argued above, this is an inherent feature of Meurisse et al. Although not explicitly taught by Meurisse et al. or Change et al., "monitoring or measurement of the instantaneous physical layer transport rate and sending to the upstream source a management message including rate information based on the monitored instantaneous physical layer transport rate and adjusting the upstream sources transmission rate responsive to the rate information in the management message in advance of the onset of congestion and cell loss" is an inherent feature of Meurisse et al., as argued above.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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Monday, June 03, 2002
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